

## **Amendments to the Specification:**

*Please add the paragraph (section) beginning on page 9, at line 25 as shown below:*

Figure 10 depicts a computer for carrying out a reorienting process according to one embodiment of the present invention.

*Please amend the paragraphs (sections) beginning on page 7, at line 4 as shown below:*

As required, detailed embodiments of the present invention are disclosed herein. However, it is to be understood that the disclosed embodiments are merely exemplary of an invention that may be embodied in various and alternative forms. Therefore, specific functional details disclosed herein are not to be interpreted as limiting, but merely as a representative basis for the claims and/or as a representative basis for teaching one skilled in the art to variously employ the present invention. Further, the image processing steps described below can be carried out automatically, using a computer such as computer 100 of Figure 10. It is to be understood that persons skilled in the art understand how to program a computer, e.g., a computer program 102 of Figure 10, to carry out these steps.

Figure 3 depicts a flowchart of a reorienting process according to one embodiment of the present invention. As depicted in block 18 of Figure 3, ECT image data for a patient is acquired during a myocardial ECT study of the heart. In certain embodiments, patients used in the study may have known or suspected coronary heart disease. Separate ECT images are acquired with the patient at (i) rest and at (ii) stress (e.g. during exercise). Block 104 of Figure 10 depicts an example of acquiring computer tomographic myocardial perfusion images.

*Please amend the paragraph (section) beginning on page 10, at line 1 as shown below:*

According to decision block 30, the process decides whether reorientation is necessary. In certain embodiments, any translation ( $\Delta$ ) value greater than about 0.1 pixels or any rotation ( $\theta$ ) value of greater than 0.1 degrees necessitates reorientation. If reorientation is necessary, the LV is reoriented, as depicted in block 32. The reorientation can include multiple steps. In certain embodiments, the first step is determining a reorientation matrix for reorienting the current LV volume based on  $\theta_x$ ,  $\theta_y$  and  $\Delta x$ ,  $\Delta y$ . In certain embodiments, the second step is updating the cumulative reorientation matrix for reorienting the original LV volume. In certain embodiments, the third step includes updating the LV center by transforming original LV center position by using the cumulative reorientation matrix. These transformation steps can be performed by using an affine transform, although other transforms known in the art can also be utilized. Once the transformation is carried out, the steps described in blocks 22, 24, 26, and 28 are carried out until reorientation is not necessary. Once reorientation is not necessary, the cumulative reorientation matrix is stored, as depicted in block 34. According to block 36, functional and perfusion parameters can be determined for the reoriented ECT images. Block 106 of Figure 10 depicts reoriented computer images as the output of program 102. Following is a non-limiting example of the beneficial results that can be obtained using the process identified in Figure 3.